REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 2, 3, 12 and 13 are requested to be cancelled.

Claims 1, 8 and 11 are currently being amended.

This amendment changes and deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1, 4-11 and 15-21 are now pending in this application.

Claim Rejections under 35 U.S.C. § 103

Claims 1-7, 11-17 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2004/0209624 ("Rune") in view of U.S. Patent Publication No. 2003/0171123 ("Laakso"). Claims 8-10 and 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rune in view of Laakso and U.S. Patent Publication No. 2002/0193118 ("Jain").

In response, without agreeing or acquiescing to the rejection, Applicants have amended independent claims 1 and 11. Further, Applicants respectfully traverse the rejection for the reasons set forth below.

Applicants rely on MPEP § 2143.03, which requires that all words in a claim must be considered in judging the patentability of that claim against the prior art. Here, the cited references do not identically disclose, teach or suggest all the claim limitations. *See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Independent claim 1 is directed to a "control device for a wireless communications network, said network comprising a plurality of base stations communicating with a plurality of mobiles" comprising, in addition to other elements, "a calculator, arranged for calculating first quantities, related to attenuations measured between said mobiles and said base stations and for calculating second quantities, related to a signal to interference and noise ratio threshold, a decision device operating jointly with the calculator according to a predefined mechanism, said predefined mechanism comprising, for a given base station: - for each mobile amongst the mobiles served by said given base station and the mobile candidates to be served by said given base station, evaluating an individual load induced by a current one of said each mobiles to said given base station, by applying a load calculation function using first and second quantities as calculated by said calculator, said load calculation function using first quantities related to the mobile and to base stations being adjacent to said given base station, for determining the sum of the inverses of the attenuations of the adjacent stations, the resulting sum being multiplied by a predefined expression using a second quantity for the current mobile, and related to a threshold of the signal to interference and noise ratio, and the resulting sum being further multiplied by the attenuation at said given base station, as represented by the corresponding first quantity, and- evaluating a load condition associated to said base station, by summing the individual loads calculated for the mobiles served by said base station and the individual loads calculated for the mobile candidates to said base station, said load condition representing a feasibility of power allocation to said mobiles by said base station, for use by said decision device for deciding whether or not a new candidate mobile can be processed in said network." (Emphasis added). Independent claim 11 recites similar limitations.

For the aid of the Examiner in understanding the claimed device and method applicants refer the Examiner to a non-limiting exemplary embodiment described in the specification as filed on page 22, Annex 1, section 1.2. As background, it should be noted that the claimed device and method use a distributed model. In contrast, the cited prior art uses a heuristic model. Further, the cited references, alone or in combination, do not disclose, teach or suggest each and every element recited in independent claims 1 and 11.

According to the claimed invention, the load calculation does not depend on the transmit power of the mobiles. In addition, the load calculation may be performed for the mobiles that are served as well as for the mobiles that are seeking to be served. The claimed method evaluates a working condition representing the feasibility of power allocation to the new mobiles by the base station. Then, the method determines how to treat the new candidate mobiles.

The Office Action acknowledges that Rune fails to disclose, "for each mobile device served by the said base station and for each new candidate mobile to said base station, a load calculation function capable of calculating the load induced by said mobile to said base station, a sole function of the quantities output by said calculator." *See* Office Action at p. 4. To cure the deficiencies of Rune, the Office Action relies on Laakso. This contention is respectfully traversed.

Laakso is directed to radio resource management in a communication system. Paragraph [0031] and formula (3) of Laakso describe a way to estimate the load factor L of a cell, for an already connected (or served) user. Formula (3) is based on the chip rate, the bit rate, and a EbN0 value, which is the "signal energy/noise ratio of the connection" (or SIR - Signal to Interference Ratio). The Examiner relies on paragraph [0031] of Laakso, which says: "The measure L provided by the equation (3) can be used when providing a target value for the powers in the radio resource management (RRM). The uplink own cell load factor L may be used as uplink load indicator, i.e. it determines the uplink load of the own cell. For example, if the uplink own cell load is said to be 60% of the WCDMA pole capacity, it means that the load factor L = 0.60. However, the L considers only the load caused by the own cell users. As will be discussed in more detail later, ***the actual total uplink load is (l+i)*L***, wherein I designates the other to own cell interference ratio. If the uplink total load factor = 0.60, the uplink load is 60% of the WCDMA pole capacity. The uplink total load factor , which is also sometimes called fractional load, can be calculated as follows: Noise raise = formula (5)." (Emphasis added.) Consequently, the load disclosed in Laakso is dependent upon power levels and interferences of all mobiles in connection with the receiving base station and in connection with all other base stations within distinct cells.

In contrast, claim 1 requires "a calculator, arranged for calculating first quantities, related to attenuations measured between said mobiles and said base stations, and for calculating second quantities, related to a signal to interference and noise ratio threshold." Such calculations may be made on board a control device, on behalf of one or more base stations, to determine: attenuations measured between a base station and the mobiles communicating with it, (the first quantities) and signal to interference and noise ratio thresholds (the second quantities). Thereafter, the load calculation function uses both the attenuations and the signal to interference and noise ratio thresholds.

However, Rune and Laakso, alone or in combination fail to disclose, teach or suggest a load calculation function which uses both the attenuations and the signal to interference and noise ratio thresholds. While Rune uses a signal to interference and noise ratio threshold, this threshold is arbitrarily fixed in advance. This is not comparable with the second quantities, related to a signal to interference and noise ratio threshold, as claimed in claim 1 and 11 which are calculated in real time. Because the signal to interference and noise ratio thresholds (the second quantities) are dynamically calculated, the claimed load estimate is more precise and more sensitive than those of the prior art. Moreover, Laakso fails to cure the deficiencies of Rune.

In addition, claim 1 specifies that said load calculation function using first quantities related to the mobile and to base stations being adjacent to said given base station, for determining the sum of the inverses of the attenuations of the adjacent stations, the resulting sum being multiplied by a predefined expression using a second quantity for the current mobile, and related to a threshold of the signal to interference and noise ratio, and the resulting sum being further multiplied by the attenuation at said given base station, as represented by the corresponding first quantity.

That is, the calculation of the load condition as claimed in claim 1 reflects clearly checking of the threshold. The claimed device checks that each mobile station has a signal to noise ratio meeting a threshold. Rune and Laakso, alone or in combination, fail to disclose, teach or suggest this feature. Meeting the threshold condition is essential to fix the bit rates for each mobile (for instance in order to guarantee voice transmission). Moreover, the

mathematical threshold differences between the combination of Rune and Laakso and the claimed method and device are clear from what is disclosed in annex 1 section 1.2 of present application.

When determining whether a claim is obvious, an examiner must make "a searching comparison of the claimed invention – *including all its limitations* – with the teaching of the prior art." *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis added). Thus, "obviousness requires a suggestion of all limitations in a claim." *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (*citing In re Royka*, 490 F.2d 981, 985 (CCPA 1974)). Here, the cited references fail to disclose each and every limitation in as complete detail as is contained in amended independent claims 1 and 11.

Claims 3-10 and 14-21 depend from one of independent claims 1 or 11 and should be allowed for the reasons set forth above without regard to further patentable limitations contained therein.

For example, concerning claims 8 and 18, the limitation "non-congestion criterion" is not identical to what is referred as "congestion control" in Jain. Indeed, "congestion" of Jain does not allow setting the defined bit rates for each mobile independently, as it is the case in the claimed device and method (See operations 701-703 in the specification). Instead, Jains' congestion control is based on total received powers at the base station [0030]. Further even if Jain would disclose a similar non-congestion criterion, it would not have been obvious for one of ordinary skill in the art to incorporate Jains' method into a mechanism using an interference to noise ratio threshold as exposed in operations 701-707 of the present application to a non-existing device allegedly resulting from a combination of two other documents (Rune & Laakso).

Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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